

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/078429 A3**

(51) International Patent Classification<sup>7</sup>: **H01J 49/04**

(21) International Application Number:  
PCT/EP2005/050132

(22) International Filing Date: 13 January 2005 (13.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0403122.5 12 February 2004 (12.02.2004) GB

(71) Applicant (for all designated States except US): MICRO-  
SAIC SYSTEMS LIMITED [GB/GB]; 8 Clifford Street,  
London W1S 2LQ (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **FINLAY, Alan**  
[IE/GB]; 14 Stanmore Road, Richmond Surrey TW9 2DE  
(GB).

(74) Agents: **MOORE, Barry** et al.; Hanna Moore & Curley,  
11 Mespil Road, Dublin 4 (IE).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

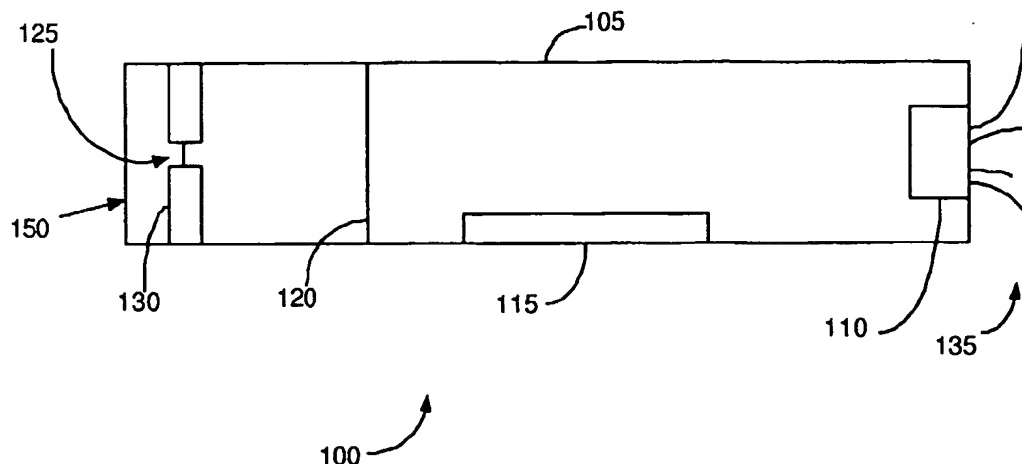
**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
29 December 2005

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: MASS SPECTROMETER SYSTEM



(57) Abstract: A portable mass spectrometer system is described. The system includes a mass spectrometer device incorporated within an evacuated chamber. The chamber includes a permeable membrane located between the mass spectrometer device and an entrance port to the chamber. Located between the membrane and the entrance port is a valve. The valve is provided in a normally closed state and has an open state, such that, in use, the adoption of the open state allows the flow of the sample into the chamber through the membrane and into contact with the spectrometer device.